text passages contain several errors. A few examples: the annual monetary values of the U.S. beekeeping industry and of bee-pollinated agricultural crops in the U.S. are misstated (appropriate estimates would be about $100 million and $10–20 billion, respectively); beeswax does not serve a useful function in the production of honey beer; and there is no evidence that feral honey bee swarms choosing home sites prefer living trees to dead ones. Especially disappointing is the inclusion in the text of such statements as "the drone's sole purpose for being is mating" and "[the queen's] only complex behavior seems to be that of seeking out and killing sister queens and mating"; these canards, which occur frequently in the popular biological literature, are expressions of poor biological thinking. A final criticism is that many of the statistics are given without regard for the appropriate number of significant digits. Thus, for instance, in the presentation of the fascinating fact that after 500 miles of accumulated distance flown the body of a worker honey bee physically breaks down, the figure is converted to the impossibly precise 804 km.

However, to return to the bright side, this book does have an extensive glossary, the index has been well put together, and the plate layouts have style and grace. This atlas should excite students and researchers about the possibilities of further investigating honey bee biology and, indeed, all aspects of invertebrate morphology.—*Richard Nowogrodzki, Department of Entomology, Cornell University, Ithaca, New York 14853.*

J. New York Entomol. Soc. 96(2):251–252, 1988

The Behavioural Ecology of Ants.—John H. Sudd and Nigel R. Franks. 1987. Chapman & Hall and Methuen, New York. x + 206 pp. Price: $55.00 cloth; $23.00 paper.

There are approximately 1,200 living species of ants, and the variation and complexity of their social organization is unique in the animal world. Ant colonies are characterized as *eusocial,* because they have overlapping adult generations, cooperative brood care, and sterile worker castes. According to the authors, this small volume primarily concerns two related issues: (1) how eusociality has evolved under the influence of natural selection; and (2) why it is found only in termites, ants, and some species of bees and wasps. Although, the authors succeed in their mission, it is somewhat misleading. For in addition to providing a theoretical discussion on the evolution of social behavior in insects, the book provides an excellent up-date on the behavior and ecology of a wide variety of ant species.

After an introductory chapter on kin selection and its influence on the number of queens in ant colonies, the authors provide a brief review (Chapter 2) of ant phylogeny. This is not so much a systematic treatment as it is a discussion of the major ecological and behavioral differences among the approximately 12 ant subfamilies.

Chapters 3 and 4 are a bit more esoteric, dealing with "economics" and caste structure. The former topic considers issues such as the time-course of colony growth and reproduction, while the latter focuses on division of labor among individuals differing in morphology or age. Age-related jobs are called temporal polyethism, the best example being that young individuals typically stay in the nest and tend the brood, while foragers are almost always the oldest workers.

The next three chapters include a heavy (and refreshing) dose of ant natural history. Thus Chapter 5 reviews the recent literature on the mechanisms of communication among ants, including the pheromonal basis for nest recognition, alarm behavior, recruitment to food, and mating. Chapters 6 and 7 are complementary, and consider how communicatory processes are used by ants to interact with other organisms. These topics range from ant-plant associations on the one hand, to parasitic relationships that ants have with closely related species. The section on slave-making behavior is particularly noteworthy for its inclusion of some very recent research on the ontogeny and evolution of social parasitism.

This small volume doesn't pretend to include every aspect of ant ecology and behavior, but what is does cover, it covers well. Perhaps my biggest complaint is with the all too frequent use of anthropomorphic ecological metaphors. For example, just about everything the ants do for a living is called a "strategy." The term "strategy" has clearly become the ecologist's equivalent of the ethologist's concept of "instinct." It is a vacuous term which is applied to everything, but which explains nothing. My second-place vote goes to the term "resource." And exactly what is a resource? Not simply food, water, or nesting material. According to Sudd and Franks, even information is a (non-tangible) resource. Thus the beginning student is left with the notion that ants (as well as every other living organism) have evolved a wide variety of strategies to conserve resources. Profound, it's not!

Finally, the cover of the book proclaims that *The Behavioural Ecology Of Ants* is a "Tertiary Level Biology" text. Translation: it is written for advanced undergraduates, postgraduates, and researchers in entomology, ecology, and animal behavior. But thanks to the lucid treatment by the authors, most of this book is not technical, and will be of interest to anyone fascinated by the diversity of social organization in the ant world.—*Howard Topoff, Department of Psychology, Hunter College of CUNY, New York, New York 10021.*

Announcement: A special field course on insects of the Maine coast will be taught from June 26–July 2 at Eagle Hill Wildlife Research Station, located 35 miles east of Bar Harbor. The course will be taught by Richard Dearborn, senior entomologist of the State of Maine. The course is on a research participation basis (tax deductible). The station is beautifully located on a 235 foot high hill at the edge of the ocean. For more information about this and other courses write or call: Eagle Hill Wildlife Research Station, Dyer Bay Road, Steuben, Maine 04680. 207-546-2821.